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CLINICS.

CLINICAL LECTURE.

Clinical Lecture on Tuberculosis, and the Evidences of the Deposit or Formation of Tubercle in the Child.—Delivered at the Hospital for Sick Children. By WILLIAM JENNER, M.D., Physician Extraordinary to the Queen, Physician to University College Hospital, and to the Hospital for Sick Children.

GENTLEMEN: Whoever desires to comprehend the diseases of infant life must view them in conjunction not only with the diseases of adult life, but also in their relation to the diseases of declining life. The pathological processes of the one period throw light on those of the other. Now, it is the consideration of some easily understood physiological or pathological condition in the child which enables us to understand the less patent disease in the aged, and then

it is some easily understood pathological process in the aged which throws light on an obscure point in the diseases of the child. He, then, who would study successfully the diseases of childhood must study them as part of the great field of pathology, and not merely as a specialty. To devote time to the study of this or of that special disease in its relation to other diseases is most useful to him who studies and to those who are to profit by his studies. To study this or that disease, or set of diseases, as a mere specialist, to view them by themselves only, is to cramp your own minds, to obtain a narrow view even of the special subject—to injure yourselves mentally, and to retard the progress of scientific and even of mere practical pathology.

Before passing to the special diseased states to which I propose in this and the succeeding lectures to direct your attention, allow me briefly to review some of those

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peculiarities in the structures, the physiology, and the habits of the child which dispose it to diseases never seen in the adult; modify those common to both, make rare those frequent in after life, and exclude those we daily witness in the aged.

The body of the child is growing. The organs and functions by which the building up of the frame is performed are in full activity; they are more perfect than in after life; the power of repair in the child is marvellous. There is no degeneration of structures essential to life or to the progress of growth. Only parts which have finished their work, have contributed probably to the perfecting of other parts essential to the perfecting of the body, decay or degenerate, *e. g.*, the thymus.

I must for a moment break the thread of my discussion, to tell you what I mean by this word "degenerate," so much abused in its use. I mean by it changes of the intimate structure of tissues or organs, independent of life force. The chief degenerations of the structures of the body observed by the pathologist may be grouped under three heads: 1. Disintegration of structures, *e. g.*, granular degeneration of muscular fibres. 2. Precipitations on to or into the elementary constituents of tissues and organs, *e. g.*, calcifications of various parts. 3. Re-arrangement of chemical elements, *e. g.*, fatty degeneration.

The body of the child is growing. Hence, not only is there activity of all the building-up functions, but there is imperfect formation, and consequent imperfect performance of function of many of the parts which are being built up, *e. g.*, the bones.

Contrast this with the state in old age; not only has the body then ceased to grow, but all its parts have passed by the date of their perfection. The structures especially concerned in building up the frame are no longer needed, they have long been inactive, and inactivity of a function involves the degeneration of the structures performing it. They have then either disappeared or are degenerating prior to disappearing. The power of repair is almost nil, and death by old age is death by the degeneration of structures, and consequent imperfect performance of functions essential to life. It is no longer parts which have finished their building-up work which degenerate, it is those concerned in the preservation of life itself which decay. The more gradual and

the more general the degeneration, the more correctly do we speak of such death as death from old age. It is rare, as you well know, for all the parts to degenerate equally and to that degree that the functions of all cease together. Usually, some one organ passes to decay more rapidly than the others, and death is said to occur from the lesions of this or of that one organ—as the old watch that has long ceased to keep time at last stops, because some one part necessary to the movements of its hands has worn a little faster than the others. All its structures are more or less decayed, but it finally ceases its work because the balance-wheel breaks, the chain gives way, the main-spring snaps.

If, now, we consider the tendency of special parts to degenerate, we find the lymphatic glands, the spleen, Peyer's patches, the solitary glands of the small intestines, all actively at work in the child. The lymphatic glands are large; the Malpighian bodies of the spleen are swollen; Peyer's patches and the solitary glands are prominent. In middle life they all begin to waste, and they go, like the thymus, when the function of building-up is done; when perfection has been reached; when life begins only to flag, and long ere we like to say old age is on us.

There is one tissue which plays so large a part in the performance of some of the functions essential to the continuance of life, and the importance of the decay of which has hitherto, it seems to me, been imperfectly appreciated, that I must for an instant direct your especial attention to it—*I mean the elastic tissue.*

A loss of elasticity gives its most characteristic aspect to age. Think of the smooth cheek of the child, and compare it in your mind's eye with the wrinkled skin of the aged; and remember how large a part in this difference is played by the difference in the elasticity of the skin at the two extremes of life. You know the influence which the elasticity of the coats of the arteries plays in the circulation. In the child the elasticity of the arteries is at its maximum. Bend the child's arm, and see how perfectly the brachial artery follows the changing length of the limb between the elbow and the axilla; then bend the arm of the old man, and note how the same artery is thrown into an S-shape coil—it has lost the power of retracting, and therefore

of adapting itself to the diminution of the length between the elbow and the axilla when the forearm is flexed on the upper arm.¹ Granular disintegration of its structure, precipitation of albumen and fibrin, and of calcareous granules into them, and arrangement of their chemical elements have taken place. The one or other of these degenerations predominating in different cases, the elasticity as well as the contractility of the vessel is lost, and thus the whole of the arteries are practically lengthened;² friction is therefore increased, and undue impediment to the flow of blood through them is the consequence, and the enlargement of the heart, said to be proper to the aged, necessarily follows.

It is, in reference to the subjects we are reviewing, of interest to note the fact that it is common for special parts to experience the decay proper to age, not only before the period of life at which such decay is the natural course of events, but also long before other parts of the body decay. Thus, one man is old as regards his scalp—his hair is gray, or his hair-follicles have decayed and wasted so as no longer to perform any function, and the man is bald; in another it is the alveoli which waste before their time; in a third the heart and arteries; in a fourth the nervous system, etc.

This tendency of particular parts to grow old before due time, is sometimes hereditary. Early baldness, early falling of the teeth, and an early aged-look, we all know, occur in many members of the same family at about the same period of life. So, also, we see member after member of the same family cut off about the same age by apoplexy, by heart-disease, by asthmatic complaints as they are called. These diseases being the result, in fact, of degenerations

occurring at or about the same period of life—the arteries, or the heart, or the lungs having been so constructed originally, as to begin to decay after so many years of ordinary wear—though care may retard, abuse hasten the decay, and so anticipate or delay the term natural to the individual. Men are old, then, physiologically considered, not when they have lived so many years, but when the structures essential to life have degenerated to a degree almost incompatible with the continuance of life.

In my Lectures given in this place last year, I contrasted the state of the nervous system, and especially the reflex nervous system, in childhood and age. I need not repeat what I then impressed on you.

Applying what I have said to the special diseases of childhood, we understand that as malformations and rickets are diseases of development and of rapid growth, they must be limited to childhood; that as the mechanical inspiratory apparatus is imperfect in the child (from the softness of ribs and cartilages), bronchitis must be very fatal to it; that from the irritability of the reflex nervous system convulsive affections of excentric origin will be common in early life; that as the lymphatic system, the glands of Peyer, the spleen, etc., are in a state of activity in childhood and youth, they will be prone at that time to certain diseases; that as syphilis, tuberculosis, and scrofulosis are the most hereditary diatheses, they will manifest themselves early; that as diseases of the arteries, veins, and heart—excluding acute inflammations and malformation and their effects—are the consequences of degenerations, they will be unknown in infancy; that hemorrhage into the brain and softening of that organ (excluding softening from acute oedema), being due in the vast majority of cases to degenerative disease of the arteries, will be infinitely rare in childhood; that as cirrhosis of the liver and kidneys and certain stomach diseases result, in the vast majority of cases, from intemperance, they will be very rare before puberty. And so we might pass in review the whole of those diseases which are proper to, unknown in, rare in, or especially mortal in early life, and trace these peculiarities of each to established physiological or pathological laws.

In the lectures which I gave in this room last year, I directed attention to one of the most widely spread of the diathetic diseases

¹ If an equal length of the artery be removed from a young and an old subject after death, and the elasticity of the two arteries tested, the difference is very remarkable, and that even when to the eye the artery of the old person appears healthy. The whole arterial system degenerates at the same time, and, consequently, the state of the brachial artery is an index to those of heart and head. I have collected many facts indicating the importance of this subject and its bearing on diseases of various organs.

² As in the healthy person, the length of the artery varies with the positions of the limb, and as the artery scarcely shortens when its coats are degenerated, it is, of course, practically speaking, lengthened. If the disease be extreme, then it is actually lengthened, as shown by its tortuous condition. When the limb is extended, dilatation of the artery necessarily accompanies the lengthening.

of childhood, viz., rickets. To-day, and in my succeeding lectures I propose to consider another great diathetic disease so common in, though not like rickets proper to, childhood, viz., tuberculosis.

As when describing rickets I drew altogether from my own experience, so in describing tuberculosis and its consequences, I shall draw my descriptions as little as possible from the observations of others, and shall limit myself to what I have seen. I shall have to leave out little of importance, because the large field which this hospital affords for the study of this common disease affords ample opportunities for observing all its chief general varieties and local developments. There are three words I shall so constantly use, to which such different meanings have been attached, that it will be necessary for me to explain the meaning I attribute to them.

When I say a child is tubercular, I mean that it has tubercles in one or more of the tissues or organs of its body. When I say a child is tubercularizing, I mean that tubercles are being deposited or formed in one or more of the tissues or organs of its body. And when I say a child is the subject of tuberculosis, I mean that it is from some general state of all its parts disposed to tubercularize.

In the adult, and yet more so in the aged, occupation, exposure, mental wear, the passions, and accidental diseases, have so modified the general aspect of the man, that although much may still be learned by the practised eye, without a question to the patient, still we are often far from correct in our surmises. It is very different with the child; in reference to its diseases the eye is the great inlet of knowledge. It is so in regard of tuberculosis. The ear and the touch, the test-tube and the microscope, give us no aid in the diagnosis. We judge almost solely from inspection of the patient.

It is when tuberculosis is inherited from the parents that its characteristic features are the most strongly marked. The germ anterior to the formation of the blood, and even before it has divided into parts, is the subject of tuberculosis, and, as a consequence, the parts formed from and by that germ partake of its constitution; and we see the result, not in this or in that part, not in the blood or bones only, but in every fibre and every cell of the frame, at least in every part made up of such cells. Let me sketch

for you the appearance of a child who is the subject of well-marked tuberculosis—one concerning whose predisposition to become consumptive we should have no doubt. I did so briefly in the lectures I gave here last year, when contrasting the leading features of tuberculosis, scrofulosis, rickets, and syphilis.

The child's loveliness is often the pride of the parents; they are charmed with its tall and thin figure, its straight and thin limbs, the delicacy and transparency of its skin, the clearness of its complexion, the beauty of its eyes, so bright, with so large pupils, and so long lashes, the oval contour of its face, and the silkiness of its hair; it is so forward, so intelligent, so clever. It lives rapidly, it cuts its teeth early, it talks before others, it quickly runs alone.

In the mother's and the poet's eye—and every mother is a poet when describing her child—the child is a pretty little fairy; in the physician's eye it is an interesting pathological specimen. If we examine such a child a little more closely, we find that its bones are all small in circumference, long, and singularly firm; that its cartilages are comparatively soft. We press our stethoscope on its sternum, and we are surprised to find how easily it is depressed—i. e., how flexible are the cartilages. The ends of its long bones are very small, and on cutting them through vertically, we are struck by the thinness of the layer of cartilage which, in the state of preparation for ossification, instead of being, as in rickets, greatly increased, is in tuberculosis diminished. Health is intermediate. This difference is most striking in the ribs—i. e., at the points where the ribs unite with the costo-sternal cartilages; in rickets, a row of nodules; in health, ditto; in tuberculosis, *nil*.

But there is another important difference between the state of the ribs in the rickety child, the healthy child, and the subject of tuberculosis—I mean the firmness of the ribs. In rickets, the softness of the ribs modifies all its chest disease in regard of symptoms and danger, and gives to the chest that remarkable form with which we are familiar. In tuberculosis, the ribs, in common with all the bones, are even firmer than in health; and the consequence is, that any diminution in the size of the lungs must be followed by a very different alteration in the shape of the thorax from that which occurs in rickets. In rickets, supposing an

impediment exists to the entrance of the air, the soft ribs are thrust in by the weight of the atmosphere, and of course recede or are driven in farthest at the part where they are the softest.

Now we may lay down this law in regard of the diseases of the lung—that all diminution in the size of one or both lungs, if not accompanied by the presence of air or fluid in the pleura, necessitates the falling in of the chest parietes; the walls of the chest follow the receding lung. In tuberculosis the lungs are small; they do not grow with the increasing length of the trunk; they are not only absolutely, but relatively to the height, small; and bear in mind that this want of size in the lungs is anterior to the deposit of tubercle. It is not the upper lobe which is especially affected—every part of the lung seems equally diminished in size; but while diminished in size absolutely and relatively, we often find its air-vesicles dilated—the lung rarified. There is no damage in texture—no loss of elasticity—only a little dilatation of air vesicles, compensating a little, and but a little, for the smallness of the organs.

I told you that the chest-walls must follow (no air or fluid being in the pleura) the receding lungs; and that little lungs necessitated a small thorax. In rickets the softness of the ribs permits of their being driven in by the weight of the atmosphere. In tuberculosis the firmness of the ribs forbids such a change. Nature here uses other methods for diminishing the capacity of the chest.

We find three forms of thorax in those who are the subjects of tuberculosis, all three consequent on the small lungs of the child. 1. The long, almost circular, thorax. 2. The long thorax with narrow antero-posterior diameter. 3. The long pigeon-breasted thorax. The key to the understanding of the two first is afforded by the thorax of the aged, who are the subjects of atrophous emphysema, or senile atrophy of the lung. As the lung diminishes in size the ribs become more oblique, and as a consequence the four upper intercostal spaces next the sternum are remarkably widened, the four lowest almost obliterated. The sixth, seventh, eighth, and ninth ribs are united at an acute angle with their cartilages—the ribs passing downwards, the cartilages upwards—to be affixed to the sternum or to cartilages above. The result of this altera-

tion in the obliquity of the ribs is that the antero-posterior and the lateral diameters of the thorax are greatly diminished, and the diaphragm, remaining as regards its highest point at its proper level, is necessarily by the lowering of its attached margin considerably more arched than natural; while a certain number of the ribs, in some cases even the eighth, ninth, tenth, eleventh, and twelfth ribs—lie in contact over the greater part of their extent with the diaphragm—have, that is to say, no lung under them. In this way, although the thorax is much lengthened, its capacity is greatly diminished.

The cause of this form of thorax in the old person whose lungs atrophy is the almost absolute inflexibility of their outer chest walls, the result of their costal cartilages being to a great extent calcified. Then, whenever the cartilage and the ribs in the child, adult, or aged person are particularly firm and the lungs atrophy generally, the thorax obtains the form I have described; we get the long, circular thorax, with narrow but pretty equal antero-posterior, and lateral diameters, oblique ribs, wide upper intercostal space next sternum, and obliterated lowest intercostal spaces.

Now, if you have followed my line of argument, you will have already understood the cause of the difference between the flat and the circular long thorax. The difference is due to the relative softness of the cartilages in the two. If the cartilages be soft you will have the chest flattened from before backwards, as well as lengthened; and if they be very soft you will have the sternum below the level of the cartilages.¹

The third form, viz., the long thorax with pigeon-breast, is the consequence of repeated trifling catarrhs affecting the lower lobes of the lungs of a child whose lungs generally are small. The air during the catarrh being unable to find ready access into the lower lobes of the lungs, the lower ribs are driven inwards at each descent of the diaphragm, bearing the sternum forward. The degree to which the sternum is advanced will depend on the height to which the impediment to the entrance of the air extends in the lungs, or, rather, in

¹ Various functional derangements of the heart, basic murmurs, etc., result from the caging up of the heart when the antero-posterior diameter of the thorax is thus much shortened.

the bronchi. The sixth and seventh ribs have, I think, the greatest effect in advancing the sternum. If a child be constitutionally healthy and suffer repeatedly from bronchitis, we ultimately obtain the same form of thorax; for a certain amount of collapse becomes permanent, and the lower lobes of the lungs are permanently diminished in size.

How is this last form of thorax to be distinguished from the pigeon-breasted thorax of rickets? In the early stage there is no danger of confounding the two; but when the ribs have consolidated, I have often seen the one mistaken for the other. There is, however, little difficulty in distinguishing the deformity consequent on rickets from that I am now describing. In the pigeon-breast from rickets, all the ribs being softened, the deformity extends certainly as high as the second rib. In the pigeon-breast from catarrh or bronchitis, the upper part of the thorax is flattened from before backwards; it is only the lower end of the sternum which is thrust forward. The child is pigeon-breasted, but it is only pigeon-breasted at the lower part of its chest.

We often find in conjunction with this form of thorax, a knuckling forward of the cartilages just next to the sternum, the yielding cartilage being compressed between the solid rib and sternum.

I desire, then, fully to impress on you that small lungs are common in the child who is the subject of tuberculosis, and that the form of thorax which in the child indicates small lungs is one of the three I have described.

By inspection we detect these forms of thorax; the eye, then, is the great inlet of knowledge here as in reference to the general aspect of the child when seeking to determine its disposition to become tubercular. When I come to speak of the physical signs which indicate that the child is tubercularizing or even tubercular, we shall see more fully the importance of the knowledge the eye conveys to us. How often is a child and even a young adult tubercular in the most extensive degree without our being able to prove by auscultation, percussion, or palpation, that any organ or tissue is the seat of tubercle? The build of body characteristic of tuberculosis is not, however, always notable when the disposition to the deposit of tubercle is considerable; and this

is to be expected, seeing that tuberculosis is admitted to be sometimes acquired after the building up of the body is nearly or quite complete. And again, when tuberculosis is inherited from one parent, the transmitted influence of the non-tubercular parent may modify the aspect of the child.

The deposit or formation of tubercle may take place slowly or rapidly. Tubercularization may therefore be acute or chronic; but I need scarcely remind you that there is no sharp line of demarcation between the acute and chronic forms of any given disease. There is no disease that occurs as an acute affection and also as a chronic affection but offers all intermediate terms of duration. Tubercularization in the child is distinguished from tubercularization in the adult by the large number of organs in which the deposit occurs at or about the same time and by the small amount of the deposit at one spot. It is this latter which makes palpation, percussion, and auscultation so often small aids in the diagnosis of tubercle, and which compels us to trust especially to a study of the general symptoms, of the conditions appreciable by the eye, and of the etiology of the disease.

Symptoms of Acute Deposit of Tubercle.—Children rarely tubercularize acutely without they inherit from one or both parents a disposition to become tubercular, or have recently been the subjects of measles or whooping-cough, or have been placed in singularly unfavourable hygienic conditions as regards air and light. With regard to these latter, they are, like errors in diet, more often merely exciting causes of tubercularization in the child already the subject of tuberculosis, than the originators of tuberculosis itself. The cases of acute tubercularization that I have seen may be grouped so as to form three varieties, which we may call the insidious, the active febrile, and the adynamic.

In the first variety the child is observed to be languid, to be unwilling to make exertion, sits or lies about, leaves its playmates, is dull and heavy or irritable in temper; the skin is hot, but the degree of heat varies much. At some parts of the day it is scarcely greater than natural; at others it is, as the mother says, burning. The thermometer shows that there is an appreciable difference in the temperature at different parts of the day and on different days. At times it is almost or quite natural; at

times it rises to 102° , and even higher. On the whole, the elevation of temperature is most marked at night. Usually when the temperature is high the cheeks, one or both, are flushed. It is the irregular feverish heat which makes the greatest impression on the mother. The pulse is always frequent, but very rapid when the temperature is high. The tongue is furred more or less, and the lips and nares dry, and often bleeding from picking. The appetite is lost or variable, and only to be excited by tasty and indigestible substances; the bowels confined or irregular; the stools more or less clay-like, or putty-like, or pale, or partly-coloured and offensive. The abdomen is free from tenderness and normal in form. There is usually a trifling cough, rapid breathing, and may be the physical signs indicative of slight catarrh, or the respiratory murmur is rough, respiration more blowing than natural. From first to last the child steadily, and if the febrile disturbance be considerable, rapidly loses flesh.

All the special symptoms I have mentioned may vary in severity, and sometimes one, sometimes another gives a peculiar feature to the case. Now, the fretfulness, or headache, or drowsiness, or sleeplessness leads the practitioner to consider all the other symptoms secondary to some special intracranial disease. Now, it is the furred tongue and the deranged intestinal secretions which lead him to the erroneous conclusion that the febrile disturbance, etc., are secondary to the state of the stomach, bowels, or liver. Again, it may be the catarrhal symptoms that predominate, and the disease is supposed to be a bad cold on the chest merely. The child may be ill enough only to keep the house or its room. After three, four, five, or six weeks even, the disease terminates in one of two ways, either some one organ becomes so gravely affected as to cause death with symptoms unequivocally referable to that, or the child recovers.

If the child dies we find after death, in addition to the lesion which caused death, gray granulations scattered through the lungs, the liver, the spleen, the kidneys, under the pleura and peritoneum, and gray and yellow tubercles in the lymphatic glands, especially the bronchial and mesenteric. Note that I tell you that gray as well as yellow are found in the lymphatic glands. You will find it stated generally in books that gray tubercles are not found in the

lymphatic glands. This is indisputably an error. They are common enough in the interior of all the lymphatic glands.

Suppose the child to recover, what was the condition of its organs?—undoubtedly they too were the seat of tubercle. An acute deposit of tubercle is constantly recovered from. It is by no means a necessarily fatal disease; nay, I feel satisfied that recovery from it is very common. The foundation for a belief in the possibility of recovery from an attack of acute tubercularization rests mainly on anatomico-pathological ground, or on these superadded to the history of the patient.

After death we every now and then find scattered through the lungs solid nodules, varying in size from a swan-shot to a large pea, and may be even larger. On section we find the centre formed of a hard, tough, almost black airless substance; about the margin of this we may find a number of small gray granulations, each surrounded by black pigment loaded tissue; and then again, perhaps, outside these transparent gray granulations free from pigment, and evidently deposited during the last illness of the patient. The centre of such a nodule is formed of obsolescent tubercle, the layer around of tubercles becoming obsolescent. The patient has manifestly had three attacks of acute tubercularization, from two of which he had recovered, for obsolescence is evidence of recovery, and in the third of which he has died. The bronchial glands, etc., in many cases give equally valuable and trustworthy evidence of recovery from acute tubercularization.

With reference to diagnosis in these cases, it rests mainly on the irregular febrile disturbance, i. e., the high but variable temperature lasting for some time, and the steady loss of flesh, with the absence of any evidence of local lesion of a grave kind. The gravity of the case is constantly, even by the experienced practitioner, unappreciated till some one organ is suddenly so severely affected as to place life in the greatest danger.

I will sketch for you a case that occurred long ago in my own practice, and made an impression on me not to be forgotten. The patient was five years of age, and the child of a medical man. The child had recently suffered from an attack of measles, from which it had recovered quickly, but had soon seemed ill again. She lost her appe-

tite, and sat about listlessly, neglecting her toys, not all day, but only playing with them occasionally, and then with little spirit. Her brothers and sisters worried her. She was taken out of doors; was thought by her mother and myself, even at that time, to want routing. Routing did not answer, and she was noticed to flush in the face and be feverish at night. Now I observed her tongue was loaded, and learned that she had been coaxed with tasty, indigestible food; so I said, "It is all error of diet." The diet was regulated, but the child did not improve. On going in one day, and seeing the child look brighter, more lively, and its skin cool, I said, "Jenny is better to-day." "Oh no, I assure you," was the reply; "she seemed as well yesterday afternoon, and then all last night she was in a burning fever." I examined the stools; they were fetid, dark, and too solid. "Yes, it is no wonder that with such a state of secretion the child is feverish at night," I said: "A dose of gray powder and jalap will put all right." But it did not put all right. The excreta were improved; the diet was all that could be desired; and then I began to think, is not the mother making more of the ailment than it deserves? And so one, two, three weeks wore on, when a sudden attack of convulsions occurred, and in three or four days the child was dead from tubercular meningitis. Every organ in the body was found, after death, to be the seat of a recent deposit of gray granulations.

In the active febrile form of acute tuberculation the febrile symptoms are more decided from the outset, and the patient at an early period is confined to bed. In the third or adynamic form of acute tuberculation, the illness begins somewhat suddenly, after at least a trifling sense of malaise of a few days' duration. The symptoms are chilliness, hot skin, frequent pulse, moist furred tongue, headache, loss of appetite, confined bowels, vomiting, considerable sense of weakness, great unwillingness to be disturbed, with irritability of temper. After a week or ten days, the mind wanders occasionally. The bowels are usually confined, and the abdomen flat or concave. Now and then, however, the stools are relaxed, and the belly swollen. The skin continues hot, dry, and harsh; the tongue becomes dry and brown; sordes collect about the teeth; prostration is extreme; and the patient sinks about three or four

weeks after the outset of the disease.—*Med. Times and Gaz.*, July 6, 1861.

HOSPITAL NOTES AND GLEANINGS.

Aneurism of the Temporal Artery; Cure by Compression.—As usually seen, aneurisms of the temporal artery originate in wounds produced by cupping. Mr. Erichsen has met with two cases of the kind, in which the disease was readily cured by laying the tumour open, turning out its contents, and tying the artery on each side of it.

Aneurism will sometimes follow in cases wherein this artery has been opened for the purpose of bloodletting, and injuries to the vessel are known to give rise to it. On the 1st instant we learnt of an instance of the latter in the person of one of the pupils of the above hospital, who was struck in the temple by a stone, which was followed by an aneurism. The treatment pursued, as we were informed, was exceedingly simple; it consisted of the occasional pressure of the proximal end of the vessel with the finger, whilst the subject of it was engaged in his studies, and the result has been the slow consolidation of the sac. This is a most convenient method of cure in this situation, as it obviates the necessity of inflicting a wound for the purpose of tying the vessel on either side of the tumour.—*Lancet*, August 10, 1861.

Paraplegia occurring in young Children induced by Exposure to Wet and Cold.—In three cases of this affection which occurred in the Metropolitan Free Hospital, the disease was apparently produced by prolonged exposure to cold, the depressing effects of which were heightened by combination with moisture. The ages of the patients were respectively five, six, and ten years. As the cause, symptoms, treatment, and result were almost identical in all the cases, it will be sufficient to refer at length to one case only, for which we will avail ourselves of Dr. Smith's notes.

"E. T—, aged ten years, was placed under my care, at the City Dispensary, upon the 22d of January, 1861. The child was carried in its mother's arms, as he was totally unable to walk. The lower extremities presented a wasted, shrunken appearance, thus offering a striking contrast to the trunk and upper extremities, which were

plump and well developed. Upon inquiry into the case, I learned that the patient enjoyed excellent health until about six weeks previously, and that he had never suffered from any severe illness. Shortly before Christmas, the boy's father, who was then living at a distance of about twelve miles in the country, removed to London, with a view to obtaining permanent employment; and as his scanty means did not permit of his travelling otherwise than on foot, he, with his wife and three children, walked up to town. The weather was of a most unfavourable character, and the boy who came subsequently under my treatment was obliged to walk all the way through the snow and sleet, as his parents were fully burdened with various packages and the two younger children, who were carried in turns by the father, and who escaped any bad effects from the exposure beyond slight bronchial disorder. The patient complained of a sense of numbness and lassitude towards the end of the journey, and was seized, a few hours afterwards, with violent shivering, which was followed by an attack of convulsions. On regaining sensibility, he was very giddy, and vomited excessively. He was kept in bed for ten days, at the end of which period he appeared sufficiently recovered to admit of his getting up again. It was then noticed for the first time that he was unable to set his feet firmly to the ground, and that he could not stand or walk without assistance. This condition was attributed by his friends to weakness only, but as it gradually became more marked, and incontinence of urine, with occasional involuntary discharge of feces, came on, they eventually had recourse to medical advice.

"Jan. 22. The sensory and motor functions are entirely wanting in the lower extremities; no deviation from a healthy condition is observable in other parts of the body. There are no symptoms of cerebral disorder; but upon percussion of the spine in its whole length, a considerable amount of tenderness was detected by firm pressure at the upper part of the lumbar region; no perceptible difference could be noticed, however, upon ocular inspection. The patient was directed to have a small blister applied immediately over the seat of the tenderness; to take, every four hours, five minims each of the tincture of cantharides and of the muriated tincture of iron, in six drachms of

the infusion of quassia; and, as the action of the bowels was irregular, a powder, consisting of rhubarb and jalap, with a few grains of ginger to obviate griping; a stimulating liniment (containing half an ounce each of tincture of cantharides and oil of turpentine, and two ounces of camphor liniment) to be rubbed several times daily into the paralyzed limbs. To have beef-tea and other nourishment, and a small quantity of port wine.

"29th. The tenderness about the spine is not of so marked a character; a slight degree of sensation has returned, and the patient said yesterday that the embrocation 'pricked' him; there is no alteration in the motor functions; the bowels act regularly, and the incontinence of urine has disappeared. To apply a fresh blister to the spine, and to continue the medicine every six hours, and the liniment as before, the tincture of cantharides being omitted.

"Feb. 5. The sensation is now partially restored, and the motor power is so much improved, that, with a little assistance, the boy can walk a few yards, dragging his right leg after him in an awkward manner.

"15th. The patient is rapidly getting better. He was ordered to have a tepid hip-bath night and morning, friction with the compound soap liniment being occasionally resorted to; to omit the cantharides from the mixture, and to increase the quantity of the tincture of the sesquichloride of iron to ten minims.

"26th. The boy can now stand alone, but is still unable to walk without help. Cold affusion was directed to be substituted for the tepid bathing; the mixture to be discontinued, and a drachm of the syrup of the iodide of iron to be given thrice daily in a little water.

"March 12. Convalescence is now satisfactorily established. From this date a continuous improvement took place, and when last seen, about the end of April, he was as healthy and vigorous as most boys at his age."

Lengthened comment upon this case is unnecessary. The circumstances connected with the boy's falling ill, coupled with the negative fact that the two younger children, who were to a certain extent protected from the depressing influence of the cold and wet, did not suffer in a similar manner, point clearly to the cause of the affection. It ought perhaps to be mentioned

that in the other cases referred to, Dr. Smith employed strychnia in suitable doses. Instead, however, of finding the results so satisfactory as he expected from analogous cases which have been recorded, he was compelled to discontinue this remedial agent in consequence of the ill-effects which were produced.—*Lancet*, Aug. 17, 1861.

Treatment of Flat Ulcers of the Rectum.

—Ulcers and fissures of the rectum are amongst the most painful of the minor affections with which surgery is concerned. Where, however, any difficulty exists in such cases, it usually arises in the diagnosis rather than in the treatment. Commonly, when the seat of fissure is discovered, the division of the fibres of the sphincter by the knife offers a ready means of cure. In cases of flat ulcer, however, the same result may be obtained by milder means, as in a case treated this year by Mr. Coulson at St. Mary's Hospital. The patient was a man aged twenty-six years. He had been the subject of piles for some years, which he attributed to an early habit of taking strong purgative medicine. Three weeks before admission he had felt a violent throbbing pain in ano after action of the bowels; this was followed by the discharge of about an ounce of blood and continued tenesmus. These symptoms were renewed at each action of the bowels, until admission, the pain being severe, and lasting some hours. On examination, a somewhat deep and irregular ulcer was found by Mr. Coulson to exist in the mucous membrane within the sphincter. It was ordered that the bowels should be regulated and maintained in a condition of laxity by determinate doses of castor oil, that careful precautions for cleanliness should be observed, and that an ointment should be applied composed of a drachm of the nitric oxide of mercury to an ounce of lard. Under this simple treatment the patient made a rapid recovery, and was discharged, cured, at the end of a fortnight.—*Ibid*.

Fracture of the Base of the Skull, with Serous Oozing from both Ears; Recovery.—The following case is another example of fracture through the base of the skull in which the pathognomonic symptoms—viz., oozing of the cerebro spinal fluid from both ears—was present. Hemorrhage from both ears occurred the first four days, after which

serous oozing commenced, and continued nearly three weeks, when it gradually disappeared, and recovery took place—a result that is indeed rare, but which no doubt was greatly favoured by the youth of the patient. The last case of a similar nature which appeared in our "Mirror" (the *Lancet*, vol. i. 1860, p. 492) was one under Mr. T. Wakley's care at the Royal Free Hospital, on which occasion reference was made to the previous cases which had been published in this journal.

The notes of the following cases were kindly furnished by Mr. A. W. Wallis, house-surgeon to the hospital.

Ambrose E—, aged thirteen, was admitted May 24th, 1860, with symptoms of fractured base of the skull. He was in the employ of the Great Northern Railway Company, and while engaged at work on the line a few miles out of town he was struck on the right side of the head by the buffer of an engine slowly in motion. When picked up he was totally insensible, and bleeding profusely from the mouth and ears. He was removed to a neighbouring shed, some brandy administered to him, and, after the lapse of about an hour, he was placed on the engine and conveyed to the hospital.

On admission, he was totally insensible; countenance blanched; surface and extremities cold; pupils dilated and fixed; pulse scarcely perceptible; respiration slow, without stertor; and he was bleeding from the nose, mouth, and ears, particularly the left ear, through which air bubbles occasionally escaped. There was no external injury to any part. He was immediately placed in bed and hot bottles applied to the feet and axilla.

May 25. Remains in much the same state as yesterday; cannot be roused. Bowels have not acted; has passed urine.

26th. Has been restless during the night. The pulse has somewhat improved, the skin and extremities are warmer, and there appears a general tendency to reaction; but he still remains quite insensible. Bowels have not acted; passes urine.

27th. Has had a very restless night, and this morning, on being loudly spoken to, he mutters incoherently and again relapses. Hemorrhage from the nose and right ear, which had hitherto continued, has now ceased, but continues slightly from the left ear. Pupils dilated, that of the left eye apparently more so than that of the right, and

there is also well-marked internal strabismus of the left eye, which did not exist previous to the accident. Bowels not open; urine passed freely. To have five grains of calomel at bed-time.

28th. Has passed a comfortable night. Bowels have acted freely, and he appears more sensible. This morning there is a considerable discharge from the ears, having the character of cerebro-spinal fluid.

29th. Has passed a good night; gave his name and address, but with some little confusion; bowels opened.

30th. Continues to improve; complains of pain at the back of his head and of giddiness; can move his limbs freely, and there is no loss of sensation; considerable discharge from the ears; takes beef-tea readily, to which he has hitherto been limited.

June 26. Up to this date he has progressed most favourably. No additional symptoms have arisen. All the serous discharge from the ears has now for some days ceased. His appetite is good, but he complains of slight occasional headache. The strabismus is still well marked, which at present is the only visible result of the injury. To go out to-day.

Nov. 26. Mr. Wallis, the house-surgeon, learned a few days ago, from a man who knew and had recently seen the lad, that he was then in very good health and at work, but still squinted with the left eye.—*Lancet*, June 15, 1861.

Three Successful Cases of Excision of the Knee-Joint.—During the past month, Mr. Price has successfully excised the knee joint in three cases. We shall briefly notice the particulars of each, reserving a more detailed account till a future period.

CASE 1.—A little girl, aged six years, had suffered from disease of the left knee-joint for upwards of a year. The origin of the mischief appears to have been a fall. For six months she had been under treatment in a London hospital. At the time of her admission under Mr. Price, it was found that the joint was completely disorganized. The surfaces of the bones were bare, abscesses had not only infiltrated the parts in immediate relationship with the articulation, but had extended upwards for some distance beneath the skin of the thigh.

Notwithstanding the great amount of disease both of hard and soft parts, and the extremely weak, hectic, and emaciated

state of the little patient, the joint was excised on the 2d of May, and on the eighteenth day the patient was out of bed. On the twenty-first day she was ordered to be taken out in a perambulator. This is one of the most successful cases we have seen, and shows how, with attention to certain practical points, the best results follow this operation.

CASE 2.—A girl, aged fourteen years, was sent to Mr. Price by Mr. Bishop, of Erith. The left-knee joint was extensively diseased; the leg was flexed at something less than an acute angle with the thigh. The extreme pain had produced irritation of the whole system. The left lung evidenced slight mischief, and a constant cough increased the general disturbance.

On the 23d of May the joint was excised. A large abscess was found in the internal condyle; after destroying a considerable portion of bone it had burst into the articulation. The limb was placed in an admirable position, and the patient in a few days was quite free from all pain. The case has progressed well, and the patient will have a good limb.

CASE 3.—On the same day (May 23d) we saw Mr. Price excise the left knee joint of a little girl, aged six years. The articulation had two months previously been torn open by a cart-wheel. On admission, Mr. Wallis, the house-surgeon, found that synovia freely escaped. Considerable shock was sustained. Extensive suppuration, etc., followed. Large abscesses running up the thigh were opened on more than one occasion. From the inflammatory mischief it appears that the main venous channel had become plugged, as the superficial epigastric and external mammary veins showed an exceedingly varicose condition.

The joint being extensively destroyed, and little respiration taking place, Mr. Price excised the articulation. The case has continued to progress rapidly. It will be interesting to see what effect the probable plugging of the venous track will have in influencing the amount of proper repair.

In each of these cases the limb was placed in the splint Mr. Price is in the habit of using, and no alteration in position has been needed. In fact, the splints have never been shifted, although some weeks have now elapsed.

We notice that Mr. Price now always adequately adjusts the cut surfaces of the

femur and tibia before the lips of the incision are closed, which plan admits of the surgeon seeing that the bones are in good apposition after the limb is firmly fixed. In each instance the joint was removed by a single transverse incision.—*Lancet*, June 15, 1861.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Non-inflammable Dresses.—The recent dreadful accident at the Continental Theatre, in Philadelphia, by which nine females lost their lives from burns caused by their dresses having caught fire from a gas burner in their dressing-room, should deeply impress upon the public mind the necessity of rendering the fine fabrics of which ladies' dresses are made non-inflammable. Indeed we had already had, it might be supposed, sufficient warnings in this respect in the recent deaths of the wife of the poet Longfellow in this country, and of Mrs. Brodhurst in London, and likewise in the deaths from the same cause, in 1858, of the Ladies Laura and Charlotte Bridgman, and Miss Plunkett, and in the case of Clara Webster, who was burnt to death on the stage. We earnestly, therefore, urge attention to the following statements:—

It is said (*Med. Times and Gazette*, Aug. 3, 1861) that "the most delicate white cambric handkerchief, or fleecy gauze, or the finest lace, may, by simple soaking in a weak solution of chloride of zinc, be so protected from blaze, that, if held in the flame of a candle, they may be reduced to tinder without blazing." Dr. Odling tells us that:—

"The various means proposed for rendering textile fabrics non-inflammable were carefully investigated a short time back by two well-known chemists, Messrs. Versmann and Oppenheim. An account of their experiments was read at the Aberdeen meeting of the British Association in 1859, and was afterwards published in the *Journal of the Society of Arts*, and in a separate form by Trübner and Co., of Paternoster-row.

"They showed that linen and cotton goods dried after immersion in a solution of one or other of several salts, possessed the property of non-inflammability, and that the best results were obtained with a solution of sulphate of ammonia, or of

tungstate of soda, neither of which liquids produced any injurious effect upon the tissue or colour of the fabric. The tungstate of soda solution was found most applicable to laundry purposes, on account of its not interfering in any way with the process of ironing.

"Muslins, etc., steeped in a 7 per cent. solution of sulphate of ammonia, or a 20 per cent. solution of tungstate of soda, and then dried, may be held in a flame of a candle or gas-lamp without taking fire. That portion of the stuff in contact with the light becomes charred and destroyed, but it does not inflame, and consequently the burning state does not spread to the rest of the material."

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New Lecture Room at the Philadelphia Hospital.—We are happy to see it stated (*Medical and Surgical Reporter*, Sept. 14) that this important improvement is nearly completed. "It has the form of an amphitheatre, capable of seating about five hundred persons, and is well lighted and ventilated. It will be convenient of access for patients by separate entrances from male and female wards on the different floors of the hospital. Adjoining the lecture room on one side is the laboratory, and the room of the Curator of the Museum, and on the other the dead-house, including its conveniences for pathological research. The location of the lecture room is on the north side of the hospital building, making it very accessible from the gate opening into the hospital grounds.

"The liberality of the managers of the hospital in opening its great clinical advantages free to all students, and the erection of a commodious lecture room for their convenience deserves the commendation of the profession."

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Medical Department of the University of the Pacific, at San Francisco, Cal.—Dr. L. C. LANE, late of the U. S. Navy, has been recently appointed to the Chair of Physiology, and Dr. HENRY GIBBONS has been elected Professor of Materia Medica in this Institution.

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Jefferson Medical College.—Dr. WM. V. KEATING, lately elected to the chair of obstetrics in this school, has been induced by impaired health to resign. Professor C. D. Meigs, the late eminent occupant of the

chair, has been requested by the Board of Trustees to perform its duties during the ensuing winter, and it is said that he has consented.

Boylston Prize.—This prize, consisting of sixty dollars or a gold medal of that value, has been awarded to Dr. R. M. Hodges, of Boston, for the best essay on the excision of joints.

FOREIGN INTELLIGENCE.

Smallpox in Prussia during 1859.—From the report just published on the authority of the Prussian Government, we extract the following figures. A great decrease of smallpox occurred in 1859 as compared with 1858, for while in the latter year there were 30,843 cases with 2,789 deaths, in the former year there were but 16,035 cases with 1,371 deaths. Of the 16,035 cases occurring in 1859, there were 4627 among children (i. e., under 15 years of age), and 11,408 amongst adults; and of the 1,371 deaths, 569 occurred among children, and 802 among adults—the mortality in the whole number being 8 per cent.; among children, 12 per cent., and among adults, 7 per cent. Of the 16,035 cases, 13,364 had been vaccinated, and 2,671 had not been. Of the vaccinated, 6 per cent. died; 7 per cent. among the children, and 5 per cent. among the adults. Of the non-vaccinated, 20 per cent. died; 23 per cent. among the children, and 17 per cent. among the adults. Among the cases, 591 had been re-vaccinated, and of these 42 died.—*Med. Times and Gazette*, September 7, 1861, from *Berlin Med. Zeitung*, 1861.

Tobacco and its Effects.—At a recent meeting of the Society of Emulation at Rouen, a paper was read by Dr. Dumesnil, on tobacco and the effects attending its use, of which the following is an abstract:—"The custom of smoking is spreading through the whole world. The tobacco-producing countries have the greatest difficulty in providing for local wants. In America the consumption augments more rapidly than the supply. According to late statistics, the quantity of tobacco used in the New World annually is in weight equal to the bread consumed by ten millions of individuals in England. England, a country

which does not produce tobacco, yearly consumes 30,000,000 lbs. of that plant drawn from America, and during the last ten years her consumption has increased one-fourth. In Hamburg, the population of which is only 150,000, as many as 40,000 cigars are consumed per day. In Denmark the annual average consumption is 4 lbs. per head for the whole population. In Holland the proportion is still higher. In Austria the cultivation of the tobacco plant occupies 100,000 acres of good land. In 1854, the consumption of tobacco in the whole world amounted to 506,000,000 lbs., being an average of 9 ounces for each person. Calculating that tobacco contains on an average 3 per cent. of nicotine, it will be seen that there are annually consumed on the globe, 15,180,000 lbs. of a poison of which a few drops are sufficient to cause death."—*Lancet*, Sept. 7, 1861.

The Cause of Fermentation.—In a recent communication to the Academy of Sciences, M. Pasteur, whose labours on fermentation are highly appreciated, gives an account of a curious microscopic insect, which is not merely produced during the process; but which is actually the cause of it. In lactic fermentation various substances are produced, viz., lactic acid, gum, mannite, butyric acid, alcohol, carbonic acid, and hydrogen. M. Pasteur having found that the vegetable ferment which transforms sugar into lactic acid, differs from those which produce gum, and which in their turn do not produce lactic acid, soon ascertained that none of those produced butyric acid. The existence of a special butyric ferment was therefore highly probable, and after many experiments, during which M. Pasteur vainly endeavoured to get rid of the infusoria which infested his preparations, he was at length struck with this curious pertinacity, and at length came to the conclusion that these infusoria were themselves the ferment which he was in search of! This view was speedily confirmed by a great many experiments, which showed that the transformation of sugar, mannite, and lactic acid into butyric acid was exclusively due to these animalcules. Their form is that of small cylindrical rods, rounded off at their extremities, generally straight, and connected together in chains of two, three, or four links each, sometimes more. Their length does not exceed the fifteen-thousandth

part of a *millimètre*. These diminutive creatures advance with a creeping motion, their body remaining nearly rigid, or at best experiencing but slight undulations. They are often bent at one or both of their extremities, but this seldom happens in their youth. They are fissiparous, that is, they multiply by separation, one link after another dropping off from the parent animal, and becoming a parent of others itself. These vibrios may be regularly sown in any medium which affords them appropriate nourishment; but the most singular circumstance connected with them is, they can live and multiply without the assistance of the smallest particle of air or free oxygen; nay, air and oxygen kill them; while a current of carbonic acid, a most deleterious gas, as we know, may be made to pass through the liquid in which they are without affecting them in the slightest degree. This is the first instance on record of animal life being supported without free oxygen.—*Ibid*.

What Constitutes Evidence of Live Birth—Vice-Chancellor Sir J. STUART decided a very curious point in medical jurisprudence the other day in the trial of Brock v. Kellock. Upwards of twenty years ago, a medical man died without a will, leaving property and a widow, who was pregnant at the time of his death. As his widow succeeded to a portion of the effects; but in case of her having a child, and the child dying, she became, as the heir of her own offspring, entitled to a further portion. She was delivered by Mr. Freeman, now of Plymouth; and the question was, did the mother give birth to a live or a dead child? Mr. Freeman distinctly stated in his affidavit that the funis pulsed after the separation of the cord, and that the child moved vigorously a minute before birth. He could not swear to the fact of respiration having taken place, but he remembered that the chest was full and arched, and he believed it must have breathed, because it was his usual practice not to divide the funis until respiration had taken place. He also placed the child in a warm bath, and he stated that he should not have done this had he not considered the child alive and capable of resuscitation. His distinct opinion was that the child was born alive, but weak; and that it died shortly after birth from the effects of a severe labour.

Dr. Robert Lee, in an affidavit, contested, in the strongest manner, the statement and opinions of Mr. Freeman. He thought it very likely that the pulsation in the finger and thumb might have been mistaken for the funic pulse. He maintained that the action of the heart, supposing it to have taken place, was no proof of life such as should be established, because the heart of animals would contract for hours or days after separation from the body. In his opinion, respiration was necessary to establish the fact of live-birth. He further said Mr. Freeman had testified that respiration had not taken place, and that no medical man would dare to give a certificate of live-birth in such a case. Dr. F. H. Ramsbotham concurred generally in the affidavit of Dr. Lee.

Dr. Tyler Smith, in his affidavit, said the pulse of the adult and the beat of the funis were so different, that the mistake supposed by Dr. Lee was not likely to have been made. He contended that a child whose heart was beating after its separation from the mother could not be said to be dead; that the beating of the heart of the lower animals after separation from the body could not apply to the human infant; and that, even in these cases, it was an evidence of vitality. There was no proof of respiration having taken place; but Mr. Freeman's opinion upon this point was the best that could be had, and Dr. Smith showed that Dr. Lee was wrong in stating that Mr. Freeman had said no respiration occurred. He thought medical evidence was limited to the proof of life or death in a physiological point of view; that the law must decide what constituted legal life. He mentioned that medical men sometimes gave certificates of still-birth when the child moved and made attempts at respiration, if it did not fully recover itself after birth. His conclusion was, that it would be better to take a single vital act, such as the beating of the heart, which had been considered by physiologists the *primum vivens*, *ultimum moriens*, as a proof of live-birth, than the movements of respiration, which were often not fully established for some time after birth.

The Vice-Chancellor in his decision entirely affirmed Dr. Tyler Smith's view of the case, the good sense of which he greatly commended, and expressed his surprise that a man in Dr. Lee's position should have made such an affidavit. He held it

proved that the child had been born alive, and refused the costs of the medical evidence on the opposing side. Dr. Alfred Taylor made no affidavit in the case, but was appealed to by Dr. Lee, and gave an opinion in favour of live-birth. This decision is of importance, inasmuch as it will go far to form the law, which has hitherto in this country been unsettled, upon the point at issue.—*Lancet*, May 11, 1861.

Basins and Reservoirs for the Water Supply of Paris.—M. BOUCHUT communicated to the Academy of Sciences the results of his visits to the basins and reservoirs of the city of Paris, from which the water descends by numerous pipes to the water-works of the streets and to the cocks of private houses. These visits generally took place in warm and stormy weather, and in the sun. The object of the first was the inspection of the racine reservoirs, near the Odeon. These basins, three in number, are open, surrounded by dwelling houses, which convey to them a great quantity of dirt. Near the basins are trees, from which leaves, seeds, and caterpillars are constantly falling; a little farther on, the flue of a factory pours forth masses of soot, a part of which is to be found floating on the surface of the water. These reservoirs are emptied every three months and cleaned out, and at the bottom is found a layer of filamentous, blackish weed about an inch and a half thick. The water, which is thirteen feet deep, appears dirty, and at times holds in suspension myriads of yellowish particles, which give it the appearance of a thick, muddy emulsion. On drawing a bucketful of this water, it is found full of living animals. The tanks of the Pantheon are isolated from all habitations and consequently better situated than the racine reservoirs; but as they are also open, their water often holds in suspension a countless host of living creatures, which, to use M. Bouchut's expression, may be taken up by the spoonful as in soup. Now, this description is not exaggerated, and, it must be confessed, is applicable to all water contained in open reservoirs, whatever its origin. If, on the contrary, you penetrate with M. Bouchut into the subterranean reservoirs, where, being at a tolerably low temperature, the water never receives the solar action, the water, whatever may be its source, is perfectly limpid, very pure, and contains no living body in suspension. Such

is the case with the Arcueil water at the Observatory and in the reservoirs of the Pantheon, and with the Seine waters in three of the basins of Passy, and with the Pré Saint-Gervais waters in two of the reservoirs of Popincourt.

It is obvious that the Paris waters, at least in summer, deteriorate unequally, and that those which are collected in open drains are infinitely less good than those that are sheltered from air, light, and sun. M. Bouchut's inspection likewise proves that among the covered waters, those which are in aqueducts and subterranean reservoirs are preferable to those which are preserved, as is shown in a specimen at Passy, in covered reservoirs, above ground, without an arch, thick enough to protect them from the action of the heat. M. Bouchut is of opinion that the basins might be advantageously covered with a double arch; the first, not thick, above the water, to protect it from light, air, and the sun; the second, thinner, placed at about a yard's distance, to prevent the first from being heated by the solar rays. The disinfection of the reservoirs might be effected by cleaning them out at least once a month during the warm weather, and after having drained off the water, burning sulphur under a canvas awning, in order to prevent the fermentation of weeds and of the remnants of vegetable or animal infusoria.—*Journ. Pract. de Méd. et de Chir.*

Health of Soldiers.—The following remarks in a late No. of the *Lancet* (Aug. 17, 1861), have great value at this time, and are well worthy of the consideration of the people in this country.

"Every scientific physician must have felt and deplored the constant waste of valuable experience as to the influence of external agents upon life under the infinitely varied conditions to which we submit our soldiers and sailors. Every Englishman has been made to feel, either in his domestic affections or in his purse, the danger and the folly of thus throwing away that experience, and of neglecting the teaching of medical science. The authorities have at length arrived at the conviction that there is an inseparable correlation between the preservation and the efficiency of armies and submission to the laws of medical science and financial economy. The principle reiterated over and over again by all our great army surgeons, that it is cheaper as well as more

humane to keep ten thousand veterans in health and readiness for service than to be ever recruiting and training new men, is at last appreciated. A good soldier, like a good craftsman of any other kind, is a valuable production; he cannot be replaced in a day; once possessed, he is deserving of the most studious care."

Laying of the First Stone of the Jews' Hospital at Norwood—The ceremony of laying the first stone of the Jews' Hospital, at Lower Norwood, was performed last week by Sir Anthony Rothschild, Bart., in presence of a numerous assemblage. The institution is destined to be a *rénais-sance* of the venerable hospital at Mile-end, one of the earliest charitable institutions of Jews in England. This building, besides the fact that it was never very well adapted to its purpose, is now in a state of some dilapidation. As soon as it became a matter resolved upon that a more commodious edifice should be erected, there were not wanting friends ready to emulate the example of the original founders of the charity; and more than one offer of land was made for a site on which to found the new building. Mr. and Mrs. Barnett Meyers have given eight acres, in the most advantageous part of Lower Norwood, for this purpose. The ground lies a little off the road, opposite the railway station, on a commanding rise, and is at once picturesquely and salubriously situated.—*British Med. Journal*, June 15, 1861.

British Medical Association.—At the recent annual meeting of this association, Dr. WM. A. HAMMOND, Asst. Surgeon U.S.A., was elected an Honorary corresponding member. This is a high and well merited compliment to our industrious and learned confrère.

British Pharmacopœia.—It appears, from a recent report of Dr. GARROD to the medical council, that this anxiously expected work is approaching completion, and that its publication may be expected at the end of the present year.

Sir Benjamin Brodie.—We learn that this distinguished ornament of our profession, who was unnecessarily subjected last year to the operation of iridectomy, and afterwards operated on for cataract, has quite recently been again operated on for the formation of

an artificial pupil, and we are told with a fair prospect of restoration of sight. The same was said of the previous operations, but we trust that the venerable head of the British Medical Profession will not meet with another disappointment.

Cooked Meat for the Labouring Classes.—A great cooking depot has recently been opened in Glasgow for the sale of food at a remarkably cheap rate, and has become an extensive affair. The shops and saloons now number six. During one week the number of rations sold and consumed amounted to upwards of 20,000.

Homœopathic Consultations.—The countenancing by regular physicians and surgeons of the globulistic humbug by consultations with the followers of that delusion will now cease in Great Britain. The British Medical Association at its last meeting adopted the strongest resolutions denunciatory of such consultations or meetings, and Mr. FERGUSON, of London, who has lately been visiting patients who were at the time under the care of homœopaths, has promised to reform his conduct for the future, as will be seen by the following letter to the editor of the *Lancet*.

"SIR: The explanations I offered in your journal of the 20th ultimo, regarding my alleged communion with homœopaths, not appearing satisfactory to the profession, I beg to state that, *for the future, I shall feel it incumbent on me to decline any meeting or so-called consultation with homœopathic practitioners.*

Enjoying a large share of professional confidence, and holding various important public appointments, I should consider myself unworthy of such honour were I, at the present time, to offer any objections to the expressed wishes and declared opinions of my professional brethren.

I am, sir, your obedient servant,
WM. FERGUSON, F.R.C.S.

George-street, Hanover-square, Aug. 1861."

OBITUARY RECORD.—Died in Dublin, suddenly, July 19th, FRANCIS RYND, Esq., one of the Surgeons to the Meath Hospital, and author of a work on Stricture and other Diseases of the Male Urethra.

— on the 20th of August, Prof. J. I. QUACKETT, F.R.S., Professor of Histology in the Royal College of Surgeons of England, and Curator of the Hunterian Museum.